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IN THE CLAIMS:

Please cancel claims 1-7 without prejudice or disclaimer, and substitute new claims 8-14 therefore as follows:

Claims 1-7 (Cancelled).

8. (New) A method for producing an optical fiber having low polarization mode dispersion, comprising the steps of
- a) providing an optical fiber preform of glass material;
 - b) heating the glass material of an end portion of the optical fiber preform;
 - c) drawing the heated glass material at a drawing speed V to form an optical fiber, the drawn glass material having a viscous zone; and
 - d) applying to the optical fiber a substantially sinusoidal spin, which is transmitted to the viscous zone;
- the spin function frequency ν , the viscous zone length L and the drawing speed V being such that both a torsion and at least a 50% detorsion are applied to the viscous zone.
9. (New) The method according to claim 8, wherein the spin function frequency ν , the viscous zone length L and the drawing speed V are such that $1.2 \cdot L \leq V/\nu \leq 6.7 \cdot L$.
10. (New) The method according to claim 8, wherein the spin function frequency ν , the viscous zone length L and the drawing speed V are such that both a torsion and at least a 60% detorsion are applied to the viscous zone.

11. (New) The method according to claim 10, wherein the spin function frequency ν , the viscous zone length L and the drawing speed V are such that $1.7 \cdot L \leq V/\nu \leq 3.3 \cdot L$.

12. (New) The method according to claim 8, wherein the spin function frequency ν , spin function amplitude θ_0 and the drawing speed V are such that the maximum applied torsion is at least of 4 turns/meter.

13. (New) The method according to claim 12, wherein the spin function frequency ν , the spin function amplitude θ_0 and the drawing speed V are such that the maximum frozen-in torsion is no more than 4 turns/meter.

14. (New) The method according to claim 13, wherein the spin function amplitude θ_0 (in turns) is such that $(2V)/(\nu\pi) \leq \theta_0 \leq (2V)/[\nu\pi(1-R)]$, wherein V is the drawing speed (in meters/second), ν is the spin function frequency (in Hz), R is the ratio $(T_{\text{appl}} - T_{\text{fr}})/T_{\text{appl}}$, T_{appl} is the maximum actually applied torsion and T_{fr} is the maximum frozen-in torsion.